

To Chapter V.2.

Reference is made to the following documents:

- D1: US-A-2 280 389 (HAROLD EDWARDS) 21 April 1942 (1942-04-21)
- D2: EP-A-0 096 129 (DONNELLY) 21 December 1983 (1983-12-21)
- D3: US-A-3 759 004 (KENT C) 18 September 1973 (1973-09-18)
- D4: EP-A-0 152 045 (LINDE AG) 21 August 1985 (1985-08-21)
- D5: US-A-2 610 714 (BRADLEY STEPHEN D) 16 September 1952 (1952-09-16)
- D6: DE 44 02 477 A (KOLBE & CO HANS) 3 August 1995 (1995-08-03)

V.2.1. Independent Claim 1

V.2.1.1. Novelty

D1 describes:

- System for securing a window on a counterchassis glued to a vehicle body (car body 6), comprising a support body consisting of a window chassis (sash 1) supporting an outer glass (glass pane 2), wherein said counterchassis includes a draw piece (clamping means 8) with at least an outer portion (see screw 14) and at least an inner wing (see insulating strip 15), said outer portion and said inner wing being interconnected (clamping means 8), wherein said outer portion (see screw 14) is substantially coplanar to said outer glass (glass pane 2), said draw piece (clamping means 8) consisting of a single piece.

Claim 1 differs therefrom in that

- the draw piece is substantially Z-shaped and is glued to the vehicle body and in that the outer portion of the draw piece is shaped so as to be coplanar also to an outer profile of the chassis.

Therefore, the subject-matter of the present claim 1 seems to fulfil the provisions of Art. 33 (2) PCT (Novelty) in view of the state of the art as mentioned in the search report.

V.2.1.2. Inventive Step

The problem to be solved by the present invention may therefore be regarded as to provide a securing system that allows an easy substitution of the glass frame.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT), the features of the characterising portion are not contained in or does not seem to be rendered obvious from the state of the art as mentioned in the search report.

The present claim 1 seems therefore to fulfil the provisions of Art 33 (3) PCT.

V.2.2. Dependent Claims 2-7

Claims 2-7 depending on claim 1 and having as subject-matter special and advantageous embodiments of the invention according to claim 1 seem, together with its subject-matter, to fulfil the provisions of Art. 33 PCT.

counterchassis, *that has substantially a finishing function.*

In order to ensure the proper distribution of stresses and the stability of the framework, the outer glass is glued to the outer surface of the vehicle body opening.

Such securing method ensures the desired planarity between the surface of the outer glass and the outer surface of the vehicle body opening, thus providing the assembly with a streamlined design, not made heavier by projecting metal draw pieces.

This brief analysis clearly shows, however, that also such second system presents a significant problem, namely the considerable increase of the costs for the window maintenance and disassembly.

As a matter of fact, this system envisages the use of steady connection means, thus involving an extension of the time needed to remove such connection means, as well as an increase of the costs for the material being used.

~~The problem which the present invention means to tackle is the implementation of an securing system ensuring an optimal streamlined style along with user-friendliness, without however bringing prejudice to the illuminance of the glass surface.~~

~~Such problem is solved by a system for securing a~~

A further system for securing a window on a vehicle body is described in document US 2,280,389 in which a glass pane or window is received inside a channel provided in a window chassis or sash, the system having also clamping means for clamping the sash in the frame or window opening towards the wall. The clamping means has a substantially U-shaped configuration with an outer portion longer than the inner portion, the outer portion being connected by means of screws to said vehicle body. The object of this prior art system is a weather-tight seal between the sash and frame.

~~counterchassis.~~

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Such securing method ensures the desired planarity between the surface of the outer glass and the outer surface of the vehicle body opening, thus providing the assembly with a streamlined design, not made heavier by projecting metal draw pieces.

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As a matter of fact, this system envisages the use of steady connection means, thus involving an extension of the time needed to remove such connection means, as well as an increase of the costs for the material being used.

The problem which the present invention means to tackle is the implementation of an securing system ensuring an optimal streamlined style along with user-friendliness, without however bringing prejudice to the illuminance of the glass surface.

Such problem is solved by a system for securing a

glass 1, mounted on the chassis 21 which is connected to the counterchassis 22 through clamp screws 23; the system is installed on the vehicle body opening 13 by interposing shims 24.

5 Figure 2, depicting a second securing system according to prior art, highlights the gluing 25 through which the glass 1 is connected to the vehicle body opening 13.

The securing system which is the subject-matter of
10 the present invention is used to implement the ~~upper~~ ^{lower} part of the window framework.

An illustrative embodiment of the system for securing a window to a vehicle body according to the present invention is shown in its entirety under reference
15 number 10.

The securing system 10 comprises, as illustrated in Figure 3, an outer glass 1 which is supported by a window chassis 2 and which can, ~~by way of example~~, be glued thereto 3.

20 A gasket for condensate recovery 4 can be included among said elements and housed within a specially-shaped throat 5 formed into the profile of the window chassis 2.

^{lower}
Figure 3, referring to the ~~upper~~ part of the window,
25 ~~whereas the previous figures relate to the lower~~

~~part,~~ also shows a Z-shaped draw piece 6; this consists of an outer portion 7 and an inner wing 9, both connected by a stem 8, the whole forming a single piece.

5 Such Z-shaped draw piece 6 is fit, as will be better illustrated below, to implement a connection with the window framework, consisting of the window chassis 2 and the outer glass 1.

) 10 Said Z-shaped draw piece 6 is provided with special steps and notches allowing it to be steadily fixed to the vehicle body opening 13 through gluing ~~or through mechanical connection means.~~

The outer portion 7 of the Z-shaped draw piece 6 is formed so as to be coplanar at the same time to the
15 outer glass 1, to the surface of the vehicle body outer side 12 and to any possible outer profile 11 of the window chassis 2.

) In this way the desired streamlined style is obtained, while keeping the stability of the
20 structure as a whole.

The inner wing 9 of the Z-shaped draw piece 6 includes a housing 14 for the screws, allowing the window chassis 2 to be fastened to said draw piece 6.

The window chassis 2 is also connected to the draw
25 piece 6 through the interposition of the gasket 15

CLAIMS

1. System for securing a window on a counterchassis glued to a vehicle body (12), comprising a support body consisting of a window chassis (2) supporting an outer glass (1), wherein said counterchassis includes a draw piece (6) with at least an outer portion (7) and at least an inner wing (9), said outer portion (7) and said inner wing (9) being interconnected, wherein said outer portion (7) is substantially coplanar to said outer glass (1), said draw piece (6) consisting of a single piece, characterized in that said draw piece (6) is substantially Z-shaped and is glued (26) to said vehicle body (12) and that said outer portion (7) of said draw piece (6) is shaped so as to be coplanar also to an outer profile (11) of said chassis.

2. System for securing a window on a counterchassis glued to a vehicle body (12) according to the preceding claims, characterized in that said inner wing (9) of the draw piece (6) includes a housing (14) for the means used to fasten the chassis to said draw piece (6).

3. System for securing a window on a counterchassis glued to a vehicle body (12) according to the preceding claims, characterized in that said chassis (2) is connected to the draw piece (6) through the interposition of gaskets (15) fit to provide centering, watertightness and the support

of the window framework.

4. System for securing a window on a counterchassis glued to a vehicle body (12) according to the preceding claims, characterized in that said draw piece (6) is provided with special steps and notches allowing it to be steadily fixed to the vehicle body opening through gluing.

5. System for securing a window on a counterchassis glued to a vehicle body (12) according to the preceding claims, characterized in that it is provided with a gasket (4) for condensate recovery, said gasket being housed within a specially-shaped throat (5) formed into the profile of the chassis.

6. System for securing a window on a counterchassis glued to a vehicle body (12) according to the preceding claims, characterized in that said outer glass (1) is supported by said window chassis, to which it is glued.

7. System for securing a window on a counterchassis glued to a vehicle body (12) according to the preceding claims, characterized in that said outer portion (7) of said draw piece (6) is substantially coplanar to the vehicle body (12).